

TESTIMONY OF THE HUACOS (MUMMY-GRAVE) POTTERIES OF OLD PERU.

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When we search the cemeteries of old Peru, we find by the side of every mummy a number of objects which are useful for him. His pious hands have within ready reach whatever is needed for his eternal voyage. Drink being indispensable in a country of so much dryness as Peru, good care was taken to place convenient to his hands a quantity of water or wine vessels to appease thirst.

These clay vessels have human form and give rise to our admiration, just as do the statuettes of the Egyptian tombs or the earthen *Cuiles* found in those of Tanagras among the Greeks.

Historians agree in recognizing in these Egyptian and Grecian images the *double* or duplicate or soul which survives the departed. Death was definite only if these statuettes disappeared.

The belief in a soul, very widespread among every people, existed in Peru. And to satisfy it these people found it convenient to transform the drinking vessel into a *soul*, that is to say, an image resembling the deceased. Besides, these little potteries had reality pleasing to the artist. The varieties of them are great, representing the child, the woman, the old man, the fat, the lean, the noble and the poor man, with every expression of physiognomy, as sorrow, joy, anger, etc. Occasionally the figures have pendants on the ears or the nasal septum perforated for the introduction of a ring. This last character of figure is in the Museum of the Trocadero, Paris.

Some of these potteries show signs of diseases. I have seen one representing a double hare-lip. Syphilitic and lupoid (wolf-cancer) lesions are very frequently shown on the faces, especially the nose and upper lip. We know that these diseases existed in America long before the time of Columbus, and some eminent scientists have made the mistake to believe that because the former disease was very widespread, so common that the old Mexicans had deified it by incarnation into a god (Nanahuatl), that it was carried first to Europe by returning Spaniards. But this is a great mistake, for Virchow shows that this disease had existed in Europe certainly as early as 1472. And Raymond, of Paris, who dug up the bones of

the "Madeleines" of France, as the cemeteries of the old leper asylums of the middle ages are called, found unmistakable evidences of its presence as early as the eleventh, twelfth and thirteenth centuries. Evidently many persons afflicted with that destructive disease were thought to be lepers and were locked up to die with them. In ancient Mexico this disease was considered as that of the nobles, the great, a sort of "King's evil." The origin of it in America has been thought by the same scientists to be by a migration of those ancient races from Asia. This is also a great mistake. For had that disease come from Asia, leprosy would have come with it. Now there was no leprosy in those ancient races until Spaniards, Portuguese and negroes had inoculated them with the germs. Syphilis originally in America was the disease of the ancient llama, the pack-animal of Incans and Aymarans.

When the ice age had retreated northward and the rivers and valleys of South America became flooded, man emigrated in two ways, in latitude with his beloved and necessary reindeer northward with the snow, and in altitude with his beloved and necessary llama to escape the floods. This animal was a part of his household—his horse by day and his blanket by night, for its alpaca wool kept him warm on Andean heights. Thus man contracted the disease which belonged to the llama.

As to the origin of lupus (wolf-cancer), which is also represented frequently on the "huacos pots" of the mummy-graves, it came from the birds, especially parrots, of the Andes. Lupus is skin-consumption. Its germ is the bacillus of Koch. Insects would feed on the parrots dead of aviary tuberculosis and then inoculate human beings. Thus there would be local contamination, skin-tuberculosis, which quickly became systemic. As soon as the lungs of man became affected, his sputum acted as a means of propagating the disease in his family and village.

Amputation of the feet is also a common representation on these potteries and it is real, with flaps covering the ends of bones. But never is a hand shown as amputated.

Noses and upper lips are represented as clean cut off, evidently by a surgeon of skill, to cure wolf-cancer of those parts. This surgical procedure must have been quite commonly practiced in those pre-Columbian days.

In the guano beds of the Chincha Islands, as Mantegazza tells

us in his *L'Amour dans l'humanité*, there have been found some wooden figures bearing about the neck a serpent which was believed to devour the body. These images were *idols*, and this representation was the expression, as I defined it, of the disease, syphilis, before those ancients of Peru had a word for it in their language. The serpent is represented in the act of devouring a certain part of the body in a series of the figures preserved in the Museum of the Trocadero. There is also one of these figures in the American Museum in New York.

Here are five of these Peruvian vessels, presented to the Museum of Paris by Mr. Drouillon and derived from Moche. All show in diverse degree some destructive lesions of the upper lip and of the nose.

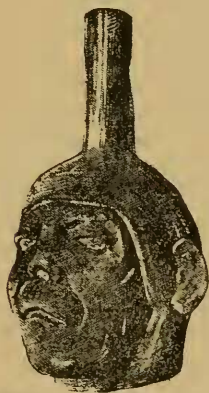


Figure 1. Peruvian Vase from Moche (Museum of the Trocadéro). The extremity of the nose is destroyed.



Figure 2. Limited destruction of the upper lip.

In the first the extremity of the nose (septum and wings) is destroyed. There is no other alteration. The rest of the nose and the upper lip are intact.

The second subject has undergone a limited destruction of the middle of the upper lip. A portion, in the form of an obtuse angle with its summit bordering on the septum, has disappeared, throwing into view the gums and teeth which remain intact. The borders of the lesion are clean, and appear cicatrized; the nose seems pointed, and the two wings are strongly spread out.



Figure 3. The upper lip is eaten away.



Figure 4. Cicatrization following necrosis of the upper jaw.

The third subject expresses an alteration most grave. The upper lip is devoured, likewise the nose, uncovering the gums, which are red and bleeding.

The teeth are complete, but the end of the nose has disappeared; this is of abnormal shortness and appears too high.

The fourth pottery is even more interesting. There has been necrosis and loss of the superior maxilla, which has undergone a retraction over the inferior. A cicatricial tissue has formed, tight and inextensible, which leaves the teeth uncovered and obstructs the entrance of the nostrils. The lower eyelid of the right eye, held by the cicatricial tissue, leaves uncovered the ocular globe, while that of the left eye is normal.

The last pottery of this series represents a mother, who holds her infant in her arms. In her case also there exists a loss of the upper jaw. But here the nose is destroyed at its root; the extremity, intact, is turned up. This form of nose has been well described by Fournier, the syphilographer of France.

Similar potteries are not rare. They exist likewise in the Museum de la Plata, Argentina, South America. A beautiful collection of photographs of this last Museum is on exhibition at the

Trocadero. You can see there a subject who has lost his nose in like manner ; a person whose face is covered with soft tissue, which is drawn tight, and reminds one of sclerous tissue. The mouth is puckered and reduced to a very small aperture, the lips have lost



Figure 5. Nose lost at the root.

their apparent elasticity, as if they could neither be opened nor closed, and the teeth remain uncovered. Certain subjects of lupus to-day offer this very aspect.

In America, I have for many years made a very minute examination of all such potteries, mostly derived from Chancan or Chimbote, Peru. Some of them were buried with the mummies of Ancon, the oldest cemetery of Peru, where most of the thermal springs were located. Here surely would congregate, before death, the diseased of those ancient races, and many must have died there on the very spot. However, it has been impossible to locate the exact mummy to which each piece of pottery belongs, through the fault of the explorer. I have also examined all the Ancon mummies in the United States, and caused to be examined by the eminent anthropologist, Dr. Emile Schmidt, all those of the Leipzig Museum, where is to be found the finest collection of American objects in the whole of Europe. The Leipzig authorities in collecting specimens even *killed* a Guayaquis Indian in South America to obtain his skull ! Their agent recently paid in Lima as high as one hundred dollars in gold for one of these little pot-

teries, which I was myself trying to get possession of. There is not a pottery with deformed face now in Peru which can be bought. Leipzig has the market for them cornered. The finest collection of these pots, however, can never be obtained, as it belongs to a woman who will not sell. She has a thousand specimens, of which she has promised me photographs.

I also had Dr. A. Bastian, Director of the Royal Museums of Berlin, go over his collection of mummies and pots in Dr. Edward Seler's American Department, for evidence of pre-Columbian diseases. But in none of all the mummies I examined, or caused to be examined, was there found even a trace of the disease which M. Virchow claimed was represented on some of the huacos potteries. M. Virchow argued against me for five years in the Berlin Anthropological Society. He believed himself able to recognize on those potteries signs of leprosy. In these discussions Dr. Leopold Glück, of Sarajivo, Bosnia, and Dr. Armauer Hansen, of Bergen, Norway, stood with me in concluding that they did not represent leprosy, for the hands and feet were never shown to be diseased, as would have been the case with lepers. I finally proved to the satisfaction and recorded acceptance of the anthropological world that those representations were really only what is shown still further by the evidence of these five Trocadero potteries which I reproduce here, and that is, that syphilis and lupus occurred together in the same individual. This opinion has been now concurred in by the authorities of the Smithsonian, of the Museum de la Plata of South America and by the Spanish authorities, because on these potteries, as on the others which have been critically examined, there is shown the upper lip retracted or destroyed, a character which is seldom if ever seen in leprosy; the faces, too, of these pots never present tubercles, tubers or the appearance called leontiasis (*lion-face*), which belongs to tubercular leprosy, and which surely would have delighted the old Peruvian artists to depict in clay; but, most important of all, the hands of all the pottery subjects are always represented intact and perfect, while in lepers they are so often mutilated. Those artists of old Peru conscientiously would never have neglected the horrible appearance of tuberculation of the face or the clubbed and clawed hands of a leper. It would have pleased them beyond measure to picture such deformations on the anthropomorphic image supposed to represent the *soul* of the individual buried. Those little gems of human representation were true im-

ages of the departed, and they would not have made them false. Amputation of hands was never represented on a pot, because artificial hands were necessary to carry the drinking water to the lips. On not one single pot anywhere in the whole Museum world is there represented a mutilated hand or a tuberculated face. This in itself is conclusive evidence that leprosy was *not* pre-Columbian in America.

These potteries of the Trocadero offer more perfect signs yet in favor of syphilis and of lupus representations; those multiple lesions of the nose are characteristic of syphilis, or of syphilis and lupus combined.

If there is any doubt of it, it is not in favor of leprosy but of lupus, as is shown in the subject Fig. 4. Even this subject derived from the Museum de la Plata, with retraction of the skin of the face, might equally be afflicted by lupus.

A last argument is furnished us by an examination of the thousands of pre-Columbian bones of American graves. Not one offers a leprous lesion, as we find them represented in the graves of the cemeteries of the "Madeleines" of France, where are found the little bones of leper hands as if *melted away* to a fine thread, but never so in ancient American graves. Quite a number of the American bones from ancient American graves, undoubtedly pre-Columbian, on the contrary, are syphilitic.

We all must admire the dexterity of those old Peruvian artists, who have given us such good representations of the ulcerative lesions of these diseases.

Besides the evidences of an "eating disease" on the faces of these clay vessels of the graves of Old Peru, there are a number which appear as if the nose and upper lip had been cleanly cut off with a knife.

Here is a photograph of one such, which Prof. Bastian, of the Royal Museum of Berlin, kindly sent me (Fig. 6). There are others with this same exhibit in the Bandelier Collection of the American Museum of Natural History, New York.

Mr. Wilhelm Von den Steinen, to whom the original of this pot belongs, says: "It is from Chimbote. The tip of the nose and the upper lip are destroyed, the cheeks 'flown out' and furrowed with wrinkles or scars." I submitted this photograph, after Prof. Bastian had sent it to me, to Dr. Hansen, of Bergen, Norway (the discoverer of the leper-bacillus), and he replied that "it did not present signs

of leprosy." "There are no tubercles on it," he said, "and no phenomena of anesthesia."

This photograph has always appeared to me as if the person it represents might have been mutilated by a surgeon's knife for lupus.



Figure 6.

Dr. Ugaz, the best authority in Peru to-day on this last-named disease, concludes an interesting article, "Etiologia topografia y tratamiento de la Uta (lupus)," as follows: "Uta (gallico, llaga, Ilianya, tiacaraña, Qquespo Spondyle) of Peru is bacillary tuberculosis, generally localized in the uncovered parts of the skin (tuberculo-derma), and its *only* treatment is endermic and *surgical*." My own conclusion is that this Uta, gallico, llaga, etc. = pre-Columbian lupus (with or without complication with syphilis), is the disease represented on the huacos potteries, for some of those specimens represent the effects of the surgical treatment of that disease, the *cutting off of nose and upper lip*.

It is highly probable that some of the deformations of those ancient Peruvian figures were intended to represent lupus and syphilis combined and not leprosy. For, as I said, Ancon, the pre-Columbian graveyard of Old Peru, was also the place of baths where the "luposos and sarnosos" congregated for *curative* treatment.

Had Ancon been a resort for lepers, somewhere in an European or American Museum we should be able to discover a *mummy* showing loss of fingers or toes, for most lepers are thus mutilated. But,

quite to the contrary, no such disfigurement of pre-Columbian remains up to this time has been found in any Museum of the world. I have searched all over for such and without success. Moreover, had there been lepers in pre-Columbian Peru, they surely would have gone to those baths along with the luposos and syphilitics. Only the syphilitics could have been cured, while the luposos and lepers, being incurable without surgery, would have died there. Thus the absence of leper remains from the graves of Ancon is double proof that leprosy did not exist in pre-Columbian Peru.

In determining in some of these representations of diseases on these ancient potteries what disease each one is, it must not be overlooked that even in the living subject the diagnosis between leprosy, syphilis and lupus is sometimes most confusing to a physician and even to a trained leprologist. This is especially true when the patients belong to degenerate or dying-out races. How much greater then must the difficulty be to determine the identity of one of these diseases whose representation was carved on the face of a small clay image by an artist who was not a medical man. We must observe, moreover, that in the representation of a disease on the clay figure of a man, intended to record what belonged to the corpse, and to be forever buried with it as its "double," or *soul*, the failure to show in that clay figure a mutilation of fingers or toes or tuberculation of face, the most usual deformities of leprosy, should indicate to us that the disease which the handicraftsman had illustrated was not leprosy at all but some other disease.

There is a specimen of ancient Peruvian pottery in the Royal Museums for Ethnology in Berlin which I have figured in the *American Journal of Cutaneous Diseases*. These photographs originally were given to me by Prof. Bastian, of the Berlin Museum. It is the figure of a man, apparently a dwarf, whose skin is covered with tuberculous lumps. The question is, What does it represent? And, more especially, does it afford any proof of the existence of either syphilis or leprosy in ancient Peru? It is quite clear that the artist has copied from some living subject, and we have at any rate offered for our inspection a very early delineation of the disease. This pottery is probably a thousand years old.

Jonathan Hutchinson, F.R.S., of London, to whom I submitted the photograph, argued with me that there is no reason to consider the disease leprosy, for the man is scratching very vigorously and clearly has no anesthesia of the skin, which would belong to him

had he leprosy. His head is thrown back. Nor in the tuberoso form of leprosy are the tubercles ever so freely developed on the trunk as is here shown. Mr. Hutchinson believed that the figure represented *Molluscum fibrosus*, a disease of skin which does not exist in Latin America to-day; and had it existed there in pre-Columbian time, would it not be found in Peru to-day? Besides these objections to Mr. Hutchinson's diagnosis there is the upper lip shown to be eaten away, as is so common in the other Peruvian potteries. *Molluscum* is not essentially pruriginous, but scabies or pediculosis might have been present to account for the itching. To my mind, it is another instance of *lupus representation*.

I have also nine representations of the grave potteries of old Peru. The first is identical with a huacos pot in the Field Columbian Museum, Chicago, a photograph of which was kindly sent me by Dr. Dorsey, and which I published in my article, "No Evidence in America of Pre-Columbian Leprosy," in the *Canadian Medical and Surgical Journal*, March, 1899. The 4th, 7th and 9th are identical with those of the Bandelier Collection of the American Museum of Natural History, which I published, with permission, in the *Journal of the American Medical Association*, in an article entitled "Pre-Columbian Leprosy," April, May and June, 1895, and in the *Verhandlungen of the Berlin Leper Conference*. The 2d, 3d, 5th, 6th and 8th of these images are representants of *lupus* and syphilis in their deformations. It should be noticed, as we proceed, that in every case the fingers are represented normally.

As to the question of pre-Columbian origin of these vases, those must be regarded as *certainly* pre-Columbian which have been found with a certain gold ornamentation, the gold brow feather, the exclusive ornament of the Inca family. I have seen these "brow feathers" in the collections in the Ethnological Museum known as the Bässler, formerly belonging to Herr Krätzer, of Lima, and also in the new collection of Mr. Krätzer. Besides some of the images were buried with diseased bones, notably one sent up by Mr. Bandelier, the explorer, from Lake Titicaca, of Peru, to the American Museum of New York, which was dug up along with a pre-Columbian Pachacamac syphilitically *diseased* skull. I took a photograph of this skull to accompany my contribution to the Berlin Leper Conference (article entitled "The Question of Pre-Columbian Leprosy in America, and Photographs of Three Pre-Columbian Skulls"). Dr. Patron, of Lima, and Dr. Manuel A.

Muniz, of the same city of Peru, have studied the subject of these potteries, so far as they relate to leprosy. Dr. Patron says, "Leprosy has remained an unknown thing to the native born of Peru, as is evidenced by the lack of a word for leprosy in the Kechuan and Aymaran languages." When leprosy appeared with the invading Spaniards and negroes, a phrase became necessary to be added to the language. Bertolini, in his dictionary of Aymara, gives for leprosy the word "Caracha," which means "itch." And Gonzales Holguin, in his book on the Ketchua language, defines "Liutlasca Caracha" as "itch."

Dr. Muniz wrote me that "the first introduction of African negroes into Peru was in 1536." "The first negro was with the *thirteen* of the Isle of the Cock before the conquest of Peru. There were maroon negroes in Peru in that same year. The king granted to Pizarro the privilege of importing negroes." These Spaniards and negroes introduced leprosy to Peru. Dr. Patron thinks that the diseases which can produce mutilations like those seen on the pottery are syphilis, boils, verruga-Peruana, or Peruvian warts, a disease with fever and peculiar to Peru (this is described by Odriozala, Paris, 1898, as *Maladie de Carrion*, for Dr. Carrion, a pupil who died from self-inoculation of it to determine its specific characters), and "Uta" (lupus). The word "Uta" means "to eat away," and would naturally be applied to a disease which destroys the tissues. The disease is called variously in different localities: Gallico ("French Disease"—the Spanish name of syphilis when it first appeared in Spain); llaga, Ilianya, Tiac—Araña and Qquespo. All the best authorities attribute this disease to the sting of insects, or by deposition of their eggs beneath the skin. Insects are especially attracted to the mouths and noses of sleeping persons, and those parts especially would be most liable to be inoculated by such a disease as lupus, which has for its germ the tubercle-bacillus of Koch, for aviary tuberculosis in Peru existed long before human tuberculosis was known. The Indians of the Peruvian Sierras are extraordinarily susceptible to lung tuberculosis directly they are transferred to the coasts, while in altitudinal Andes this phase of this pre-Columbian disease does not appear. Dr. Patron's great remedy to-day for Peruvian lupus is cauterization with the Paquelin battery. In other words, all authorities agree on the cure of it by no other means than the *knife* or by burning it out.

Mr. Bandelier, of the American Museum, in reply to my question whether the Peruvian images labeled Chancan and Chimbote, which he had sent up, were to be considered pre- or post-Columbian, said that some of them were and some were not.

The question of the pre-Columbianism of these pots, which arose when I brought them to the attention of the Berlin Leper Conference, was afterwards thoroughly discussed in the Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte (see *Zeitschrift*, 1897, 1898 and 1899), by eminent *Americanists*, such as Polakowsky, of Berlin; A. Stübel, of Dresden; Reiss, of Berlin; Dr. E. W. Middendorf, Dr. Edward Seler, of Berlin; Dr. Marcus Jiminez de la Espada, of Madrid; Dr. A. Bastian, the Director of the Royal Museums of Berlin; Prof. Virchow, President of the Society; Dr. Carrasquilla, of Bogota; Dr. Lenz and Dr. Lehman-Nitsche, of La Plata Museum, and Von den Steinen, etc. I brought before these eminent and learned gentlemen all the evidence furnished me by Mr. Bandelier and the anthropologists of America. Mr. Bandelier had written me that all his "finds" were



Figure 7.

pre-Columbian, and especially described a huacos pot representing a human amputated foot, which I had described in my original paper. The fact that it was a diseased foot would indicate that it had not been amputated as a punishment "for crime," as Dr.

Carrasquilla, of Colombia, South America, had thought. That it is a disease representation is shown by the toes of the clay figure being elevated from the ground, as if the sole of the foot was greatly swollen. This Pachacamac foot-pot was dug up from a grave twelve feet deep; not a bead nor a piece of glass or copper was ever found in that pre-Columbian burial-ground. This is an indication of pre-Columbianism. Moreover, this pot, which I reproduce here, shows the bone protruding and the flesh cut away, just as would appear on a foot that had been amputated, for the flesh flaps must be thus provided to cover the stump of the leg. Mr. Bandelier wrote me as follows of this peculiarity of the figure: "I think that the figures represented without feet ought to be considered as *amputated*, so that they have nothing to do with the question of leprosy or syphilis."

Certainly a people that could trephine a skull as admirably as these same Incas, as is shown by one photographic specimen sent me from Peru (which I here reproduce for purpose of illustration), could just as well amputate with the stone knife a foot properly (see "Pre-Columbian Surgery," Ashmead, *Univ. Med. Mag.*, 1896).

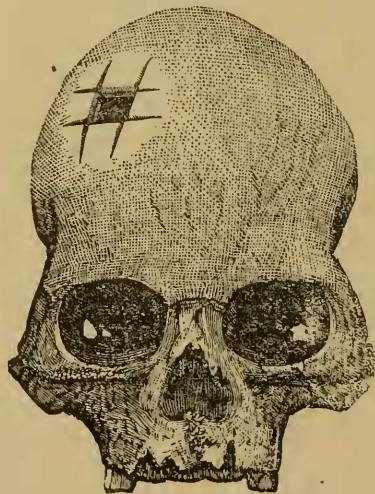


Figure 8. Trepanation of the Incan Epoch (Squier's skull).

This Fig. 8 shows a trepanation of the Incan epoch: A cranium of Yucay. Nelaton and Broca determined that it belonged to the

indigenous race and that it was ante-mortem. Broca concluded that such an operation was performed for extravasation of blood in the cranium from a number of causes—wounds, punctured fracture, violent inflammation, suppuration, delirium, coma, etc.—just as is done by our surgeons to-day.

I have also pictures of ten huacos potteries of La Plata Museum, Argentina, which Dr. Lehman-Nitsche submitted to me. As will be seen also by a reference to those of the Bandelier Collection of the American Museum, New York, while amputation of the feet is often represented, in not one single pot is there a hand amputated. Dr. Polakowsky raised the point that if these amputations were due to disease there should be representations of amputated hands as well as feet. But he overlooked the important fact that then the soul of the departed could not reach out his hand for the wine or water-bottles which are necessary for his future life in the grave or for his four days of journey to Paradise. The whole intent of putting these little bottles in the grave with the corpse is to keep death from becoming definite. A *handless* soul representation would destroy their religious belief. Therefore, even if the hand of the corpse was amputated, they would put on the image they buried with that corpse, *good hands* to help the individual in the other world.

Dr. Carrasquilla was of opinion that these amputation representations do not treat of disease at all, but of punished criminals; that for little faults they cut off the nose and upper lip, and when they punished "relapsers" they amputated also the feet, for the purpose of hindering them from committing new crimes or to keep them from running away.

Dr. Carrasquilla promised to send documentary proofs of this belief of his, but they were found to be totally insufficient to prove his point. Dr. William Von den Steinen has consulted all the literature of South America, like, for example, the works of Cieza de Leon, of Garcilaso de la Vega, and he has *not* been able to find indications of mutilations that prove that the representations on the clay figures have been produced by punishments which had been applied to the individuals. He believes that they refer to the representations of a disease. Mr. Stübel participated in the same belief. Mr. Bastian and Mr. Middendorf thought that they treated simply of punishments applied to criminals. Mr. Seler believed that leprosy had existed in pre-Columbian *Mexico*, because of the

well-known word "teococolitzli," which was applied to leprosy and to skin diseases generally! Mr. Jiménez de la Espada gave the question a new turn, that he did not believe that leprosy nor elephantiasis (its variety) had been of pre-Spanish origin in Peru; there were no documentary proofs known to him which supported such opinion, and he was not in accord with the opinion of Carrasquilla, Bastian and Middendorf, who thought they treated of criminals and beggars. He claimed that they did not apply mutilations of the body as punishment, unless death was intended to follow them, and that there were no beggars at all among the Incans, due to their social order so perfect. According to his judgment, these vessels, or better said these *votive* figures, represented a disease special to Peru, an endemic variety of tuberculosis ("llaga" or "hutta=uta"). Mr. Espada knew only one note in the old literature which refers to mutilations of the lips and the nose. "The reyezuelos ó caracas of the Isle of Puna mutilated in this way their eunuchs, for the purpose of making them unattractive to the concubines." Zarate relates it (*Histoire de la decouverte et de la Conquete du Perou*, translated from the Spanish of Augustin de Zarate by S. D. C.; first Vol., Paris, by the Compagnée des Libraries, M.D.CC.XLII, with the privilege of the King, page 25): "Le Seigneur de cette isle (de Puna) était fort crainte et fort respecte par ses sujets, et si jaloux que tous ceux qui étoient commis à la garde de ses femmes, et même tous les domestiques de sa maison, étoient eunuques; et on coupoit non seulement les parties qui servent à la generation mais pour les defigurer on leur coupoit aussi le nez." Oviedo says that the lips also were sometimes amputated. Herrera mentions no mutilation. Nor do Rivero and Tschudi (*Antigüedades peruanas*, Vienna, 1851). Bastian (*Die Culturlande des Altes America*, Berlin, 1878, Tom. 1, p. 593) says the same as Oviedo, that "they also amputated the nose and lips, so that they would not present a seductive appearance."

Prof. Virchow formulated his judgment, saying that he neither believed that they treated of punished criminals, because it was not related in the literature. Besides there exists statues of wood¹ of prisoners, derived from the Isla Chíncha (Guana isles); two are well preserved, one great and the other small. The great one is on foot, the little one is represented as a truncated body. On

¹ (See Virchow, *Verhandlungen*, 1873.)

both figures the arms are held arranged behind, like a person who listens tranquilly. The large idol has a cord round the neck, which is tied in front by a coarse knot. One of the ends of the cord goes down to the stomach. The nose in both takes the form of an eagle's beak. David Forbes says these wooden idols represent prisoners holding a cord or a serpent to the neck. Forbes and H. B. Frank suppose that they have thus symbolized syphilis, a disease original to the mountains of Peru and characteristic of the alpaca or llama, an animal which transmitted it to man by unnatural vice. Neither of these idols nor those described by Weiner represent mutilated nose and lips. Therefore *all* prisoners were not punished by amputation of nose and lips. (See rich collection in La Plata Museum.)

Polakowsky divides all these vessels into groups: 1. Clay figures representing mutilation of nose, of pathologic origin; 2. Those where it is doubtful whether they treat of disease or of surgical operation.

Polakowsky does not think they treat of punished criminals, because he has searched for data in the literature and failed to find such. He lived twenty-five years in South America. Von den Steinen found in the Royal Museum of Berlin representant vases of heads and entire bodies, one of them stretched on his belly, the other on the knees or with the legs crossed. All had mutilations of the point of the nose and the greater part of the upper lip. In four of the pieces the feet were lacking, on the others the lower part of the body was covered with a cloth which enveloped it from the hips, in a manner which made one think they also had lost the feet.

Now in ceramics too: First, we have types undoubtedly of prisoners, representing a person on foot with hands behind and bound with a cord, but no other indication to show that it treats of a prisoner. Secondly, a prisoner on his knees, halting, or sitting with the feet crossed. Moreover, he has a cord tied around his neck. A *third* represents the serpent eating a certain part of his body (penis), while his hands are tied behind his back. But in *none* of these clay figures which represent undoubtedly prisoners, was there mutilation of any part of the face or of the body. The testimony of the huacos potteries, therefore, is to the effect that the Old Incans did not mutilate their prisoners by amputation of the feet. Moreover, in

these ceramics whenever amputation of feet is represented (for the flaps are shown) there is evidence of disease in the face.

Does there exist such a disease of the face, which would also affect the feet to require amputation of them and both equally? Yes! I believe that the amputated feet of the huacos potteries have relation with the mutilations represented on the face.

Mr. Ambrosetti (*Nota de Arqueologia Calchaqui* Instituto Geographico-Argentina, tomo xvii) thinks that the stumps are due to the imperfect work of the artist, like in Calchaque idols, whose feet are are not moulded in form at all. But then there are images shown stretched on the belly, apparently intended to be shown in a helpless condition! I have seen one representing a person who was dressing his stump with a cup of medicine, the stump thrown across the opposite leg; and besides there are the flaps shown and also that foot specimen itself, like a foot that had been cut off. Some of these amputated figures are represented with the hand extended for alms; some hold a stick to creep or hobble with on their knees, with their feet cut off.

In the images of the La Plata Museum, shown among the ten which I print in this article, it can be seen by the originals (for all the kneeling figures are without feet, the ends of their limbs showing flap-stumps as if amputated, which cannot be seen by a front view) that in no case is amputation represented without the image showing a diseased face. Now the ancient Incans cut off the hands and ears of prisoners, but not the feet. Yet this mutilation of *hands and ears* is not shown by a single specimen of pottery that I have seen, and besides I believe that they never buried a *clay soul-figure* with such a criminal. *They wanted him to die.* The pot buried with him would keep him alive.

In a report of the Viceroy, Dr. Martin Henriquez, of the year 1582, which mentions the manner of government of Peru, the customs and usages of the Incas, and where it is said in a general way that amputation of limbs was a punishment of criminals, he goes on to say: "But in my opinion such amputations were no simple bodily punishment which left the sufferer alive, but a kind of capital execution like hanging, or other like." The text, which is here translated literally, says: "Executions were public and very crude. Some were precipitated from rocks (of Andean precipices), others had their limbs amputated, etc."

Von den Steinen says: "As to the mutilations of the legs, whether

it be amputation or disease we have no case made out. In all Peruvian vases where feet are represented they are easy to be recognized as such. The accuracy in the rendering goes even so far that in some representations of persons with tucked-under legs the form of the feet is expressed on the bottom of the vase. That the Old Peruvians liked to find in their vessels the forms of persons affected with remarkable manifestations of disease is shown also in the Berlin collection, by the large number of them blind, one-eyed, with lop-sided jaws, etc. As to the finding places of these vases, they are unfortunately not safely established, the greatest part has the indication of Chimbote, and besides there is Trujillo and Chancay."

I point out, in conclusion, here that the influence of cold of the Andean heights might have had to do with the necessity of amputation of feet. There was a great deal of barefoot walking in Incan climates, while the hands would be better clad. We must renounce, however, the giving of a positive judgment as to the mutilations of the feet of Old Peruvians. So far no other explanation has been found but a pathological one.

Prof. Bandelier wrote me from Lake Titicaca, where he was engaged in explorations for the American Museum: "All the Pachacamac remains, a few specimens perhaps excepted, which I cannot now remember, belong to the so-called Yunca (hot country) or coast Indian type of artifacts, and they are certainly anterior in date to 1532. I do not wish to be understood to say that all the Pachacamac finds to be made, or made previously, are not post-Columbian; but the site where I caused the excavations to be made and the depth at which the objects were taken out, point to the conclusion that my finds are indeed pre-Columbian, or at least with very few exceptions only. The human foot alone and in appearance amputated is not rare among coast pottery, and the Museum must have another one sent by me from Lambayeque, with its sandal perfectly normal as well as handsomely ornamented. I remember having seen other specimens of the same description. But none of them were deformed as the Pachacamac foot is.

"The deformed faces on the pottery are generally regarded as representations of syphilis, and I never heard leprosy mentioned in connection with them."

This is what I read of the ancient languages of Old Peruvians as written in their graves: There was never a migration of these dis-

eases from Asia, nor did their religious beliefs about the soul emanate from Asia. The surgery of ancient America was not of Asiatic derivation. The civilization or culture-growth of ancient Peruvians was purely an American institution which had developed from preëxisting savages on this hemisphere.

NEW YORK, 333 W. 23d St.

Stated Meeting, December 18, 1903.

President SMITH in the Chair.

The list of donations to the Library was laid on the table, and thanks were ordered for them.

The decease of the following members was announced:

Rev. Henry Clay Trumbull, D.D., at Philadelphia, on December 8, æt. 73.

Dr. Gustave Schlegel, at Leyden.

Mr. Rosengarten presented a communication on "The Earl of Crawford's MS. History in the Library of the American Philosophical Society."

Dr. Leonard Pearson was introduced by the President, and presented a paper on "The Animal Industries of the United States."

The President delivered his "Annual Address."